

OIPE

2

RAW SEQUENCE LISTING DATE: 02/08/2001
PATENT APPLICATION: US/09/761,117 TIME: 17:26:46

Input Set : A:\Cpg.pto
Output Set: N:\CRF3\02082001\I761117.raw

SEQUENCE LISTING

RAW SEQUENCE LISTING DATE: 02/08/2001
 PATENT APPLICATION: US/09/761,117 TIME: 17:26:46

Input Set : A:\Cpg.pto
 Output Set: N:\CRF3\02082001\I761117.raw

70	G T G A A G C A A G	G C A T T G G T G A	A G A C A A A	A T G	G C C	T C G	C C G	G C T	G A C	A G C	T G T		351					
71				Met	Ala	Ser	Pro	Ala	Asp	Ser	Cys							
72				1					5									
74	AT C	C A G	T T C	A C C	C G C	C A T	G C C	A G G	G A T	G T T	C T T	CTC	A A C	C T T	A A T	C G T		399
75	Ile	Gln	Phe	Thr	Arg	His	Ala	Arg	Asp	Val	Leu	Leu	Asn	Leu	Asn	Arg		
76	10			15					20									
78	C T C	C G G	A G T	C G A	G A C	A T C	T T G	A C T	G A T	G T T	G T C	A T T	G T T	G T G	A G C	C G T		447
79	Leu	Arg	Ser	Arg	Asp	Ile	Leu	Thr	Asp	Val	Val	Ile	Val	Val	Ser	Arg		
80	25			30					35				40					
82	G A G	C A G	T T T	A G A	G C C	C A T	A A A	A C G	G T C	C T C	A T G	G C C	T G G	A G A	G C C	C T G		495
83	Glu	Gln	Phe	Arg	Ala	His	Lys	Thr	Val	Leu	Met	Ala	Trp	Arg	Gly	Leu		
84				45					50				55					
86	T T C	T A T	A G C	A T C	T T T	A C A	G A C	C A G	T T G	A A A	T G C	A A C	C T T	A G T	G T G	A T C		543
87	Phe	Tyr	Ser	Ile	Phe	Thr	Asp	Gln	Leu	Lys	Cys	Asn	Leu	Ser	Val	Ile		
88				60					65				70					
90	A A T	C T A	G A T	C C T	G A G	A T C	A A C	C C T	G A G	G G A	T T C	T G C	A T C	C T C	C T G	G A C		591
91	Asn	Leu	Asp	Pro	Glu	Ile	Asn	Pro	Glu	Gly	Phe	Cys	Ile	Leu	Leu	Asp		
92				75					80				85					
94	T T C	A T G	T A C	A C A	T C T	C G G	C T C	A A T	T T G	C G G	G A G	A A C	A T C	A T G	G C T		639	
95	Phe	Met	Tyr	Thr	Ser	Arg	Leu	Asn	Leu	Arg	Glu	Gly	Asn	Ile	Met	Ala		
96				90					95				100					
98	G T G	A T G	G C C	A C G	G C T	A T G	T A C	C T G	C A G	A T G	C A T	G T T	G T G	G A C	A C T		687	
99	Val	Met	Ala	Thr	Ala	Met	Tyr	Leu	Gln	Met	Glu	His	Val	Val	Asp	Thr		
100	105			110					115				120					
102	T G C	C G G	A A G	T T T	A T T	A A G	G C C	A G T	G A A	G C A	G A G	A T G	G T T	T C T	G C C	A T C		735
103	Cys	Arg	Lys	Phe	Ile	Lys	Ala	Ser	Glu	Ala	Glu	Met	Val	Ser	Ala	Ile		
104				125					130				135					
106	A A G	C C T	C G T	G A A	G A G	T T C	C T C	A A C	A G C	C G G	A T G	C T G	A T G	C C C	C A A		783	
107	Lys	Pro	Pro	Arg	Glu	Glu	Phe	Leu	Asn	Ser	Arg	Met	Leu	Met	Pro	Gln		
108				140					145				150					
110	G A C	A T C	A T G	G C C	T A T	C G G	G G T	C G T	G A G	G T G	G T G	G A G	A A C	A A C	C T G	C C A		831
111	Asp	Ile	Met	Ala	Tyr	Arg	Gly	Arg	Glu	Val	Val	Glu	Asn	Asn	Leu	Pro		
112				155					160				165					
114	C T G	A G G	A G C	G C C	C C T	G G G	T G T	G A G	A G C	A G A	G C C	T T T	G C C	C C C	A G C	C T G		879
115	Leu	Arg	Ser	Ala	Pro	Gly	Cys	Glu	Ser	Arg	Ala	Phe	Ala	Pro	Ser	Leu		
116				170					175				180					
118	T A C	A G T	G G C	C T G	T C C	A C A	C C G	C C A	G C C	T C T	T A T	T C C	A T G	T A C	A G C	C A C		927
119	Tyr	Ser	Gly	Leu	Ser	Thr	Pro	Pro	Ala	Ser	Tyr	Ser	Met	Tyr	Ser	His		
120	185			190					195				200					
122	C T C	C C T	G T C	A G C	A G C	C T C	C T C	T T C	T C C	G A T	G A G	G A G	T T T	C G G	G A T	G T C		975
123	Leu	Pro	Val	Ser	Ser	Leu	Leu	Phe	Ser	Asp	Glu	Glu	Phe	Arg	Asp	Val		
124				205					210				215					
126	C G G	A T G	C C T	G T G	G C C	A A C	C C C	T T C	C C C	A A G	G A G	C G G	G C A	C T C	C C A	T G T		1023
127	Arg	Met	Pro	Val	Ala	Asn	Pro	Phe	Pro	Lys	Glu	Arg	Ala	Leu	Pro	Cys		
128				220					225				230					
130	G A T	A G T	G C C	A G G	C C A	G T C	C C T	G G T	G A G	T A C	A G C	C G G	C C G	A C T	T T G	G A G		1071
131	Asp	Ser	Ala	Arg	Pro	Val	Pro	Gly	Glu	Tyr	Ser	Arg	Pro	Thr	Leu	Glu		
132				235					240				245					
134	G T G	T C C	C C C	A A T	G T G	T G C	C A C	A G C	A A T	A T C	T A T	T C A	C C C	A A G	G A A	A C A		1119

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/761,117

DATE: 02/08/2001
TIME: 17:26:46

Input Set : A:\Cpg.pto
Output Set: N:\CRF3\02082001\I761117.raw

135	Val	Ser	Pro	Asn	Val	Cys	His	Ser	Asn	Ile	Tyr	Ser	Pro	Lys	Glu	Thr	
136	250				255					260							
138	ATC	CCA	GAA	GAG	GCA	CGA	AGT	GAT	ATG	CAC	TAC	AGT	GTG	GCT	GAG	GGC	1167
139	Ile	Pro	Glu	Glu	Ala	Arg	Ser	Asp	Met	His	Tyr	Ser	Val	Ala	Glu	Gly	
140	265				270				275				280				
142	CTC	AAA	CCT	GCT	GCC	CCC	TCA	GCC	CGA	AAT	GCC	CCC	TAC	TTC	CCT	TGT	1215
143	Leu	Lys	Pro	Ala	Ala	Pro	Ser	Ala	Arg	Asn	Ala	Pro	Tyr	Phe	Pro	Cys	
144					285				290				295				
146	GAC	AAG	GCC	AGC	AAA	GAA	GAA	GAG	AGA	CCC	TCC	TCG	GAA	GAT	GAG	ATT	1263
147	Asp	Lys	Ala	Ser	Lys	Glu	Glu	Glu	Arg	Pro	Ser	Ser	Glu	Asp	Glu	Ile	
148					300				305				310				
150	GCC	CTG	CAT	TTC	GAG	CCC	CCC	AAT	GCA	CCC	CTG	AAC	CGG	AAG	GGT	CTG	1311
151	Ala	Leu	His	Phe	Glu	Pro	Pro	Asn	Ala	Pro	Leu	Asn	Arg	Lys	Gly	Leu	
152					315				320				325				
154	GTT	AGT	CCA	CAG	AGC	CCC	CAG	AAA	TCT	GAC	TGC	CAG	CCC	AAC	TCG	CCC	1359
155	Val	Ser	Pro	Gln	Ser	Pro	Gln	Lys	Ser	Asp	Cys	Gln	Pro	Asn	Ser	Pro	
156					330				335				340				
158	ACA	GAG	GCC	TGC	AGC	AGT	AAG	AAT	GCC	TGC	ATC	CTC	CAG	GGT	TCT	GGC	1407
159	Thr	Glu	Ala	Cys	Ser	Ser	Lys	Asn	Ala	Cys	Ile	Leu	Gln	Gly	Ser	Gly	
160					345				350				355			360	
162	TCC	CCT	CCA	GCC	AAG	AGC	CCC	ACT	GAC	CCC	AAA	GCC	TGC	AGC	TGG	AAG	1455
163	Ser	Pro	Pro	Ala	Lys	Ser	Pro	Thr	Asp	Pro	Lys	Ala	Cys	Ser	Trp	Lys	
164					365				370				375				
166	AAA	TAC	AAG	TTC	ATC	GTG	CTC	AAC	AGC	CTC	AAC	CAG	AAT	GCC	AAA	CCA	1503
167	Lys	Tyr	Lys	Phe	Ile	Val	Leu	Asn	Ser	Leu	Asn	Gln	Asn	Ala	Lys	Pro	
168					380				385				390				
170	GGG	GGG	CCT	GAG	CAG	GCT	GAG	CTG	GGC	CGC	CTT	TCC	CCA	CGA	GCC	TAC	1551
171	Gly	Gly	Pro	Glu	Gln	Ala	Glu	Leu	Gly	Arg	Leu	Ser	Pro	Arg	Ala	Tyr	
172					395				400				405				
174	ACG	GCC	CCA	CCT	GCC	TGC	CAG	CCA	CCC	ATG	GAG	CCT	GAG	AAC	CTT	GAC	1599
175	Thr	Ala	Pro	Pro	Ala	Cys	Gln	Pro	Pro	Met	Glu	Pro	Glu	Asn	Leu	Asp	
176					410				415				420				
178	CTC	CAG	TCC	CCA	ACC	AAG	CTG	AGT	GCC	AGC	GGG	GAG	GAC	TCC	ACC	ATC	
179	Leu	Gln	Ser	Pro	Thr	Lys	Leu	Ser	Ala	Ser	Gly	Glu	Asp	Ser	Thr	Ile	
180					425				430				435			440	
182	CCA	CAA	GCC	AGC	CGG	CTC	AAT	AAC	ATC	GTT	AAC	AGG	TCC	ATG	ACG	GGC	1695
183	Pro	Gln	Ala	Ser	Arg	Leu	Asn	Asn	Ile	Val	Asn	Arg	Ser	Met	Thr	Gly	
184					445				450				455				
186	TCT	CCC	CGC	AGC	AGC	AGC	GAG	AGC	CAC	TCA	CCA	CTC	TAC	ATG	CAC	CCC	1743
187	Ser	Pro	Arg	Ser	Ser	Ser	Glu	Ser	His	Ser	Pro	Leu	Tyr	Met	His	Pro	
188					460				465				470				
190	CCG	AAG	TGC	ACG	TCC	TGC	GGC	TCT	CAG	TCC	CCA	CAG	CAT	GCA	GAG	ATG	1791
191	Pro	Lys	Cys	Thr	Ser	Cys	Gly	Ser	Gln	Ser	Pro	Gln	His	Ala	Glu	Met	
192					475				480				485				
194	TGC	CTC	CAC	ACC	GCT	GGC	CCC	ACG	TTC	GCT	GAG	GAG	ATG	GGA	GAG	ACC	1839
195	Cys	Leu	His	Thr	Ala	Gly	Pro	Thr	Phe	Ala	Glu	Glu	Met	Gly	Glu	Thr	
196					490				495				500				
198	CAG	TCT	GAG	TAC	TCA	GAT	TCT	AGC	TGT	GAG	AAC	GGG	GCC	TTC	TGC		1887
199	Gln	Ser	Glu	Tyr	Ser	Asp	Ser	Ser	Cys	Glu	Asn	Gly	Ala	Phe	Phe	Cys	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/761,117

DATE: 02/08/2001
TIME: 17:26:46

Input Set : A:\Cpg.pto
Output Set: N:\CRF3\02082001\I761117.raw

200	505	510	515	520
202	AAT GAG TGT GAC TGC CGC TTC TCT GAG GAG GCC TCA CTC AAG AGG CAC			1935
203	Asn Glu Cys Asp Cys Arg Phe Ser Glu Glu Ala Ser Leu Lys Arg His			
204	525	530	535	
206	ACG CTG CAG ACC CAC AGT GAC AAA CCC TAC AAG TGT GAC CGC TGC CAG			1983
207	Thr Leu Gln Thr His Ser Asp Lys Pro Tyr Lys Cys Asp Arg Cys Gln			
208	540	545	550	
210	GCC TCC TTC CGC TAC AAG GGC AAC CTC GCC AGC CAC AAG ACC GTC CAT			2031
211	Ala Ser Phe Arg Tyr Lys Gly Asn Leu Ala Ser His Lys Thr Val His			
212	555	560	565	
214	ACC GGT GAG AAA CCC TAT CGT TGC AAC ATC TGT GGG GCC CAG TTC AAC			2079
215	Thr Gly Glu Lys Pro Tyr Arg Cys Asn Ile Cys Gly Ala Gln Phe Asn			
216	570	575	580	
218	CGG CCA GCC AAC CTG AAA ACC CAC ACT CGA ATT CAC TCT GGA GAG AAG			2127
219	Arg Pro Ala Asn Leu Lys Thr His Thr Arg Ile His Ser Gly Glu Lys			
220	585	590	595	600
222	CCC TAC AAA TGC GAA ACC TGC GGA GCC AGA TTT GTA CAG GTG GCC CAC			2175
223	Pro Tyr Lys Cys Glu Thr Cys Gly Ala Arg Phe Val Gln Val Ala His			
224	605	610	615	
226	CTC CGT GCC CAT GTG CTT ATC CAC ACT GGT GAG AAG CCC TAT CCC TGT			2223
227	Leu Arg Ala His Val Leu Ile His Thr Gly Glu Lys Pro Tyr Pro Cys			
228	620	625	630	
230	GAA ATC TGT GGC ACC CGT TTC CGG CAC CTT CAG ACT CTG AAG AGC CAC			2271
231	Glu Ile Cys Gly Thr Arg Phe Arg His Leu Gln Thr Leu Lys Ser His			
232	635	640	645	
234	CTG CGA ATC CAC ACA GGA GAG AAA CCT TAC CAT TGT GAG AAG TGT AAC			2319
235	Leu Arg Ile His Thr Gly Glu Lys Pro Tyr His Cys Glu Lys Cys Asn			
236	650	655	660	
238	CTG CAT TTC CGT CAC AAA AGC CAG CTG CGA CTT CAC TTG CGC CAG AAG			2367
239	Leu His Phe Arg His Lys Ser Gln Leu Arg Leu His Leu Arg Gln Lys			
240	665	670	675	680
242	CAT GGC GCC ATC ACC AAC ACC AAG GTG CAA TAC CGC GTG TCA GCC ACT			2415
243	His Gly Ala Ile Thr Asn Thr Lys Val Gln Tyr Arg Val Ser Ala Thr			
244	685	690	695	
246	GAC CTG CCT CCG GAG CTC CCC AAA GCC TGC TGAAGCATGG AGTGTGATG			2465
247	Asp Leu Pro Pro Glu Leu Pro Lys Ala Cys			
248	700	705		
250	CTTTCGTCTC CAGCCCCCTTC TCAGAACATCA CCCAAAGGAT ACTGTAACAC TTACAAATGT			2525
252	TCATCCCCATG ATGTAGTGCC TCTTTCATCC ACTAGTGCAA ATCATAGCTG GGGGTTGGGG			2585
254	GTGGTGGGG TCGGGGCCCTG GGGGACTGGG AGCCGCAGCA GCTCCCCCTC CCCCACTGCC			2645
256	ATAAAACATT AAGAAAATCA TATTGCTTCT TCTCCTATGT GNNNNNNNNNN NNNNNNNNNNN			2705
258	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			2765
260	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			2825
262	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			2885
264	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			2945
266	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			3005
268	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			3065
270	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			3125
272	NNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN			3185

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/761,117

DATE: 02/08/2001
TIME: 17:26:46

Input Set : A:\Cpg.pto
Output Set: N:\CRF3\02082001\I761117.raw

274	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	3245	
276	NTTAAGTAT	TGCATCTGTA	TAAGTAAGAA	AATATTGT	CTAAAATGCC	TCAGTGTATT	3305
278	TGTATTTTT	TGCAAGTGGG	GGGTTACAAT	TTACCCAGTG	TGTATTAAGA	AAAACCCAAA	3365
280	GAACCCAAAA	ATCTCCAGAA	GGAAAAATGT	GTAATTGT	TCTAGTTTC	AGTTTGATA	3425
282	TACCGTACA	ACGTGTCCCT	ACGGTGCCTT	TTTCACGGA	AGTTTCAAT	GATGGGCGAG	3485
284	CGTGCACCAT	CCCTTTTGAG	AGTGTAGGCA	GACACAGGGA	CTTGAAGTTG	TTACTAACTA	3545
286	AACTCTCTT	GGGAATGTT	GTCTCATCCC	ANTCTGCGTC	ATGCTTGTTG	GATAACTACT	3605
288	CCGGAGACAG	GGTTGGCTG	TGTCTAACT	GCATTACCGC	GTTGTAAAAA	ATAGCTGTAC	3665
290	CAATATAAGA	ATAAAATGTT	GGAAAGTCGC	AAAAAAAAAA	AAAAAAAAAA	AAAAAA	3720
293	(2) INFORMATION FOR SEQ ID NO: 2:						
295	(i) SEQUENCE CHARACTERISTICS:						
296	(A) LENGTH: 706 amino acids						
297	(B) TYPE: amino acid						
298	(D) TOPOLOGY: linear						
300	(ii) MOLECULE TYPE: protein						
302	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:						
304	Met Ala Ser Pro Ala Asp Ser Cys Ile Gln Phe Thr Arg His Ala Arg						
305	1	5	10	15			
307	Asp Val Leu Leu Asn Leu Asn Arg Leu Arg Ser Arg Asp Ile Leu Thr						
308	20	25	30				
310	Asp Val Val Ile Val Val Ser Arg Glu Gln Phe Arg Ala His Lys Thr						
311	35	40	45				
313	Val Leu Met Ala Trp Arg Gly Leu Phe Tyr Ser Ile Phe Thr Asp Gln						
314	50	55	60				
316	Leu Lys Cys Asn Leu Ser Val Ile Asn Leu Asp Pro Glu Ile Asn Pro						
317	65	70	75	80			
319	Glu Gly Phe Cys Ile Leu Leu Asp Phe Met Tyr Thr Ser Arg Leu Asn						
320	85	90	95				
322	Leu Arg Glu Gly Asn Ile Met Ala Val Met Ala Thr Ala Met Tyr Leu						
323	100	105	110				
325	Gln Met Glu His Val Val Asp Thr Cys Arg Lys Phe Ile Lys Ala Ser						
326	115	120	125				
328	Glu Ala Glu Met Val Ser Ala Ile Lys Pro Pro Arg Glu Glu Phe Leu						
329	130	135	140				
331	Asn Ser Arg Met Leu Met Pro Gln Asp Ile Met Ala Tyr Arg Gly Arg						
332	145	150	155	160			
334	Glu Val Val Glu Asn Asn Leu Pro Leu Arg Ser Ala Pro Gly Cys Glu						
335	165	170	175				
338	Ser Arg Ala Phe Ala Pro Ser Leu Tyr Ser Gly Leu Ser Thr Pro Pro						
339	180	185	190				
341	Ala Ser Tyr Ser Met Tyr Ser His Leu Pro Val Ser Ser Leu Leu Phe						
342	195	200	205				
344	Ser Asp Glu Glu Phe Arg Asp Val Arg Met Pro Val Ala Asn Pro Phe						
345	210	215	220				
347	Pro Lys Glu Arg Ala Leu Pro Cys Asp Ser Ala Arg Pro Val Pro Gly						
348	225	230	235	240			
350	Glu Tyr Ser Arg Pro Thr Leu Glu Val Ser Pro Asn Val Cys His Ser						
351	245	250	255				
353	Asn Ile Tyr Ser Pro Lys Glu Thr Ile Pro Glu Glu Ala Arg Ser Asp						

VERIFICATION SUMMARY DATE: 02/08/2001
PATENT APPLICATION: US/09/761,117 TIME: 17:26:47

Input Set : A:\Cpg.pto
Output Set: N:\CRF3\02082001\I761117.raw

L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]